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PROJECT MANAGEMENT IN REGULATION OF ENVIRONMENTAL POLICY OF THE REPUBLIC OF KAZAKHSTAN

ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ЭКОЛОГИЯЛЫҚ САЯСАТЫН РЕТТЕУДЕГІ ЖОБАЛЫҚ БАСҚАРУ

ПРОЕКТНОЕ УПРАВЛЕНИЕ В РЕГУЛИРОВАНИИ ЭКОЛОГИЧЕСКОЙ ПОЛИТИКИ РЕСПУБЛИКИ КАЗАХСТАН

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Abstract: The project management tools in regulation of environmental policy in Kazakhstan are studied. The implementation of the project approach to public administration is carried out with the help of State Development Programs that enable implementation of socio-ecological-economic goals in the regions. This is a complex project management tool, representing a complex of government regulation projects which require the interaction between significant number of entities at different levels in the process of development, organizing, coordination of the efforts of program participants, monitoring, evaluation of the results of its effectiveness. It includes management entities and measures on development of the entity properties, including through the project implementation, as well as direct program management process as a set of activities. The work focuses on the development and management of State programs. Within the framework of the project management concept, the authors made an attempt to determine the level of sustainable regional development. Features of environmental regulation are considered. As a result of the analysis, problem zones of all stages of the State program management were identified in view of the perspective of the world experience of effective evaluation.

Аңдатпа: Қазақстанның экологиялық саясатын реттеудегі жобалық басқару құралдары зерттелген. Мемлекеттік басқаруға жобалық тәсілді іске асыру өңірлерде әлеуметтік-экологиялық-экономикалық сипаттағы мақсаттарды іске асыруға мүмкіндік беретін мемлекеттік даму бағдарламаларының көмегімен жүзеге асырылады. Бұл-әзірлеу, ұйымдастыру, бағдарламаға қатысушылардың күш-жігерін үйлестіру, мониторинг, оның тиімділігін бағалау нәтижесінде әр түрлі деңгейдегі субъектілердің едәуір санының өзара іс-қимылын талап ететін мемлекеттік реттеу жобаларының кешенін білдіретін жобалық басқарудың күрделі

құралы. Ол басқару субъектілерін және объектінің қасиеттерін дамыту жөніндегі шараларды қамтиды, оның ішінде жобаларды іске асыру негізінде, сондай-ақ іс-шаралар кешені ретінде бағдарламаны басқару процесінің өзін тікелей қамтиды. Жұмыста мемлекеттік бағдарламаларын дамытуға және басқаруға баса назар аударылды. Жобалық менеджмент тұжырымдамасы аясында авторлар тұрақты аймақтық даму деңгейін анықтауға әрекет жасады. Экологиялық реттеу ерекшеліктері қарастырылды. Талдау нәтижесінде тиімділікті бағалаудың әлемдік тәжірибесі тұрғысынан мемлекеттік бағдарламаны басқарудың барлық кезеңдерінің проблемалық аймақтары анықталды.

Аннотация: Исследованы инструменты проектного управления в регулировании экологической политики Казахстана. Реализация проектного подхода к государственному управлению осуществляется с помощью государственных программ развития, позволяющих реализовывать цели социо-эколого-экономического характера в регионах. Это – сложный инструмент проектного управления, представляющий комплекс проектов государственного регулирования, требующих взаимодействия значительного количества субъектов различного уровня в процессе разработки, организации, координации усилий участников программы, мониторинга, оценки результатов ее эффективности. Она включает субъекты управления и меры по развитию свойств объекта, в том числе на основе реализации проектов, а также непосредственно сам процесс управления программой как комплекс мероприятий. Акцент в работе сделан на развитие и управление государственными программами. В рамках концепции проектного менеджмента авторы сделали попытку определить уровень устойчивого регионального развития. Рассмотрены особенности экологического регулирования. В результате анализа выявлены проблемные зоны всех этапов управления государственной программой с позиций мирового опыта оценки эффективности.

Key words: ecological policy, regional development, project management, management, efficiency, monitoring, "green" economy, world experience.

Кілттік сөздер: экологиялық саясат, аймақтық даму, жобалық басқару, менеджмент, тиімділік, мониторинг, "Жасыл" экономика, әлемдік тәжірибе.

Ключевые слова: экологическая политика, региональное развитие, проектное управление, менеджмент, эффективность, мониторинг, «зеленая» экономика, мировой опыт.

Introduction. The methodology of new public management, which is results-oriented, the use of project management tools in state planning in frames of economic efficiency while balancing the interests of society and nature becomes relevant for government authorities that implement environmental policy across the regions.

The implementation of project management in the modern conditions of the Republic of Kazakhstan is carried out in the form of state programs and development projects that allow realizing socio-ecological and economic objectives in a given region.

Last years Kazakhstan pays more attention to green economy development. In 2006 in Kazakhstan was adopted Presidential Decree No 216 the Concept of Transition of the Republic of Kazakhstan to Sustainable Development for the Period 2007-2024. The general goal of the Concept is “to achieve an economic, social, environmental, and political balance of the development of the Republic of Kazakhstan as a base for improvement of quality of life and provision for the competitiveness of the country in the long-term period” [1].

Within the paradigm of sustainable development economic, environmental and social sub-systems are the fundamental ones in state activity, in the development of regional development programs and strategic documents [2].

In this regard, the system of state planning in the Republic of Kazakhstan, approved by the Decree of the President of the Republic of Kazakhstan from June 18, 2009 № 827, the territorial development program is ranked fifth in the hierarchy of strategic planning documents. This state program allows us to consider all stages of the management process and to follow the process of implementation of socio-environmental and economic policies in the region. We chose the program of territorial development of the Karaganda region as an object of the research because Karaganda region has rich economic, social and ecological potential. Along with it, there are many unsolved ecological problems.

Material and methods of research. For this research, the authors use state program on territory development in the Republic of Kazakhstan or, more precisely, program on territorial development of Karaganda region.

State program being a sophisticated tool of state regulation, is a set of projects (measures) and regulatory instruments. It requires the cooperation of a large number of different levels of actors in the development, organization and coordination of the efforts of participants in the program, monitoring and evaluation of interim results for the feedback and adjustment programs, and finally, evaluation of outcomes, which allows you to judge the effectiveness of the program and the achievement of its goals. It includes the subjects of management and measures for the development of object properties, including through the implementation of projects (including investment), as well as directly the program management process as a set of measures. Without using an effective control system, the state program can be quite formal, that does not allow all the subjects of the program to achieve its interests.

The study used scientific methods of cognition, such as analysis and synthesis, induction and deduction, statistical method, historical method, comparative, and equilibrium analysis, the method of analytical models of microeconomics and economic-mathematical methods, systematization and data analysis methods.

Results and their discussion. As a part of the administrative reform in Kazakhstan, the system of public management is undergoing significant changes. One of the main criteria of new management is an indicator of economic efficiency. The successful solution of problems of regional development to a certain extent depends on the transformation of the regional socio-ecological-economic system into a sustainable, balanced and, at the same time, developing system [3].

At the same time, the official methodology on the development of territorial development program and processes of program management has significant weaknesses.

The first experience in the development and implementation of the Programme on territorial development for 2010-2014 showed that there is a problem in the methodical support of the programs, as their content are ultimately can be defined as a set of strategic plans of sectoral departments. In fact, the sectoral principle of management remains a priority, and the section of territorial development includes individual tasks of strategic plans of regional administrations: the economy (e.g. survival and development of the villages in bor-der areas), urban planning, architecture, and other. The program has no project-based approach.

The current technique does not allow covering such strategic positions as the uneven development of the territory, the development of growth poles, environmental issues. As subjects of the program, institutions are not included in it. However, their mission is to develop economic space in the region. Thus, they remain outside of these programs, and non-profit sector has been included only in the areas of gender and special social services. While the current stage of New public management notes the complexity of modern public administration, which is caused by largely increasing the number of control subjects, which include all subjects on the areas: corporate, non-profit sector actors, development institutions, and so on.

Today, the territory development program is actually not managed. Thus, there has been accumulated a lot of problems in this area: in the process of development of state programs the efforts of different sectoral departments are not coordinated; the quality of the analysis of the current state of development of the region is rather low; target indicators are blurred and difficult to quantify; there is no targeted funding programs; there is no evaluation of the effectiveness of interventions, and other problems that make the territorial development program inflexible and inefficient instruments of state regional sustainable development management policy.

Key point in the management of sustainable development in the region in the Republic of Kazakhstan is to improve the practice of development and management of the Program on territory development of the Republic of Kazakhstan (PTD RK), which operate on the basis of the Decree of the President of Kazakhstan dated 18-th June, 2009 № 827 “On the system of state planning in the Republic of Kazakhstan”.

Analysis and evaluation of program management on territory development in the Republic of Kazakhstan from the standpoint of the development of the methodology and the content has been made on materials of the Karaganda region.

Karaganda region development program for 2011-2015 is a programmatic document of the regional government planning system, which is based on the Republic of Kazakhstan President's Decree of June 18-th, 2009 № 827 “On state planning system in the Republic

of Kazakhstan". The program includes five areas: "The economy of the region"; "Social services and human potential"; "Infrastructural Complex"; "Territorial (spatial) device"; "The system of public administration and local self-government".

The analysis of the content and management of the program of territorial development of the Karaganda region revealed a number of shortcomings of the Programme, among which are the following:

■ a superficial analysis of the environmental development of the region, which does not reflect many of the most important problems of the region, such as the presence of historical pollution;

■ insufficient number of target indicators and indicators of tasks performance, many of which do not meet the goals and objectives, planned activities from the perspective of performance management methodology;

■ inadequate lighting and not sufficient taking into account the environmental direction;

■ absence entities operating at the territory and carrying out their activities to promote the sustainable development of the region in PTD, an indication of the relevant objectives (target indicators), tasks (performance objectives) and activities of organizations such as: in the sphere of economy: SEC "Sary-Arka" and special economic zone "Sary-Arka"; JSC "GCHP"; Regional industrial park, the Chamber of entrepreneurs; in the social and environmental spheres: non-governmental organizations and other representatives of civil society, which are active at the territory.

The study identified the following shortcomings in the management of the Program of development in Karaganda region for 2011-2015:

Program Development. Stage of development is characterized by the practice of linking all regional management reports without the use of technology and methods of forecasting and design. There is no active cooperation with NGOs and public associations, i.e., the mechanism of public participation in the decision of social, ecological and economic problems of the region in order to ensure sustainable development of the region is not worked out. A proper use of the practice of strategic planning with the use of outcome indicators was not implemented. Many target indicators and indicators of the tasks are chosen incorrectly, and they cannot be quantified.

The lack of funding of the Programme on territory development rather than regional management measures in the framework of their strategic plans without taking into account the priority of the activities, which are usually calculated using the methods of forecasting Foresight, Delphi and others.

There is no organization and coordination of the Programme. There is no single independent body in charge of sustainable development in the region. At the moment there is monitoring of target indicators and task indicators.

At the stage of monitoring excessive formalization can be noticed. Monitoring data are based on official statistics, which is absent for most of the indicators at the time of monitoring. In this connection, management value of monitoring is very low. And it does not represent any value for further adjustment of the Programme and evaluation of its implementation. The monitoring results do not serve as a basis for the adjustment of program and regional policy in general.

Evaluation of the programme is limited. There is no internal integrated assessment as well as the interim assessment of the implementation of the programme.

The lack of *adjustment* of programs.

Control is rather formal. Responsible department is accountable to the Maslikhat of the region for the performance indicators of the Program. This does not provide specific personal responsibility of officials for the shortcomings of the Programme, and the effectiveness of its implementation.

Application of the principles and tools of project management in PTD of Karaganda region for 2011-2015 is very limited.

As the result of the research, taking into account the major challenges to sustainable development in the region, Akimat of Karaganda region, is given the following recommendations to follow for improving the management process of program on territorial development for 2016-2020 years:

I. At the development stage:

■ apply methods of forecasting and design for the development of regional development strategies (e.g., methods of Foresight, Delphi, etc.);

■ develop cooperation with non-governmental organizations and public associations;

■ conduct correction (adjustment) and ensure consistency between objectives, target indicators, aims and task indicators, as well as planned activities in accordance with results-based management methodology;

II. At the stage of the Program financing:

► provide targeted self-financing of the Programme of Region development rather

than regional management activities in the framework of their strategic plans;

► develop a mechanism to attract investors' financial resources through public-private partnerships.

III. At the stage of organization and coordination:

– create an independent body to oversee programs for sustainable development in the region (such as the Coordinating Council);

– form a team of professionals - project teams, working on project management principles with the aim of coordination of program activities in the context of sustainable development in the region;

IV. At the stage of monitoring:

√ include official statistics and advanced analysis of ecological and socio-economic development of the region over the past three years;

√ carry out the adjustment of timing of the monitoring and analysis;

V. At the stage of evaluation:

- to introduce the activities of the state apparatus of the Karaganda region the practice of internal evaluation of the implementation of programs on territorial development for performance of management functions.

VI. At the stage of adjustment:

- provide adjustment of the Programme, based on monitoring of the data and analysis of the region's development.

VII. At the stage of control

Provide personal responsibility of officers in charge of the management of sustainable development in the region (in the structure of the Regional Akimat) for the results of the Programme.

To predict the environmental sustainability of the Karaganda region, we have built a regression model in which the amount of pollutant emissions (Emis, thousand tons) will depend on variables such as GRP (GDP, KZT million), Population's total population (Pop, thousand people), the number of enterprises that have emissions of harmful substances into the atmosphere (Manuf, units) and vehicles (Avto, thousand units).

The relationship between the emissions of pollutants and the volume of GRP is described by a polynomial of the second degree. This kind of connection between these indicators was described by D. Grossman and A. Krüger [4], who suggested that the economic recovery leads first to an increase, and then to a decrease in emissions.

That is, with the growth of GNP in the beginning, the ecology worsens: the factories are smoky; the forests are cut down. Then there is a turning point, which many scientists explain as follows: “With the increase in income, the demand for improving the environment is rising and there are more resources that can be invested in it” [5].

In other words, wealthy citizens, firstly, are keenly interested in living in an environmentally friendly environment, thereby preserving their health and thinking about future generations, and secondly, they can afford to invest free money in the environment.

Thus, in order to save the environment, it is necessary not to limit economic development, but, on the contrary, to develop it as intensively as possible, without being exchanged for ecology.

However, in our opinion, a number of other factors that we have included in the ecological model affects the number of emissions into the atmosphere [6]:

$$Emis = b_0 + b_1 GDP^2 + b_2 GDP + b_4 Pop + b_5 Manuf + b_6 Avto + u_t$$

The coefficients of the regression equation were estimated by the method of least squares. As a result of approximation of statistical data on the Karaganda region, the following equation was obtained:

$$Emis = -711.7 + (-6.2 \cdot 10^{-11}) GDP^2 + 0.0009 GDP + 2.075 Pop + \\ + 0.029 Manuf + 9.85 Avto, \qquad R^2 = 0.7$$

Since the coefficient $b_1 = -6.2 \cdot 10^{-11} < 0$, and the coefficient $b_2 = 0.0009 > 0$, we obtained a convex upward (∩-shaped) curve, changing its direction with respect to the point of inflection from growth to fall.

Having differentiated the equality in terms of GDP [7], and equating the result to zero, we calculated the volume of the gross regional product in the average for the Karaganda region, for which the pollution reaches its maximum value. We received that the peak of pollution occurs at the level of GDP = 7258064.5 million tenge. A further increase in this indicator in the region leads to a reduction in air emissions of pollutants [8]. The forecast of the environmental situation, according to the constructed regression model, will be as follows for the next three years:

$Emis_{2017}$=627.6 thousand tons;
$Emis_{2018}$=353.6 thousand tons;
$Emis_{2019}$=270.7 thousand tons.

This forecast was calculated based on the predicted values of the indicators participating in the model, which are indicated in the following table [9 -10].

Table - Forecast of target ecological indicators of development of the Karaganda region

Factors of ecological sustainability	Model	Forecast indicator		
		2017	2018	2019
Number of enterprises that have emissions of harmful substances into the atmosphere, units	Trend model $Manuf = 116.2t + 264.8$ $R^2 = 0.83$	1310.6	1426.8	1543
Number of vehicles, thousand units	Trend model $Avto = 28.644t + 110.21$ $R^2 = 0.98$	483	511	540
Note - calculated by the authors				

Conclusion. To conclude, it can be noted that:

1. Transition to sustainable development and ensuring sustainable ecological policy is a very long and complicated process.

2. Nevertheless, the use of economic and mathematical models for forecasting the target indicators of the regional development program in the context of the paradigm of sustainable development of the territory will have a beneficial effect on the entire management process and will contribute to improving the quality of regional development planning, development programs for the region and their implementation.

3. It is necessary to expand the implementation of project management approach into the public policy of the region.

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